

unconditionally, in some of our latest and largest books of micrographic and comparative anatomy, and without any reference to the eminent physiologist who originally propounded it, the present measurements are at variance with Wagner's conclusion. Indeed it was as much nullified by Van der Hoeven's discovery, in the year 1841, of the large size of the corpuscles in *Cryptobranchus*, and by the proof much later of their still greater magnitude in *Amphiuma*, both species with evanescent gills. As little relation appears between the size of the species and the size of the corpuscles; for these are larger in the little *Proteus* and *Amphiuma* than in the gigantic *Sieboldia*. And this accords with my old measurements, which, while proving that there is such a relation in one and the same order of mammalia and birds, showed that the same rule is not applicable to the lower Pyrenæmatous Vertebrates.

3. Notes on some Reptiles and Batrachians obtained by Dr. Adolf Bernhard Meyer in Celebes and the Philippine Islands. By Dr. A. GÜNTHER, F.R.S., F.Z.S.

[Received December 11, 1872.]

(Plates XVII., XVIII.)

HYDROSAURUS.

In Proc. Zool. Soc. 1872, p. 145, pls. 7 & 8, I have described and figured two species of *Hydrosaurus* from the Philippines; but the exact habitat was known of one of them only. I am now able to give more precise information in this respect.

1. *Hydrosaurus marmoratus* is described by Cuvier and Wiegmann as coming from Manila. A fine specimen was obtained by Dr. Meyer in Luzon, so that this species appears to be confined to this island.

2. *Hydrosaurus nuchalis* is from Negros; several specimens of different ages were brought by Dr. Meyer; another we have bought of Hrn. Salmin, all showing the peculiar development of the nuchal scales.

3. *Hydrosaurus cumingii* from Mindanao is still represented by one example only.

TROPIDOPHORUS GRAYI.

One specimen was obtained by Dr. Meyer in Luzon; and at a somewhat later period we purchased three other examples of different ages of Hrn. Salmin, without precise information as regards their habitat. All these specimens differ slightly from the typical examples in having smaller gular scales.

HINULIA VARIEGATA. (Plate XVII. fig. B.)

This species has been very properly distinguished by Prof. Peters from *Hinulia nævia*, which has smaller scales, and the vertical sepa-

rated from the rostral by the frontals. *H. nævia* is not confined to New Guinea; we have one specimen from Dillwyn's Bornean collection; it is not well preserved.

HINULIA NIGROLABRIS. (Plate XVII. fig. A.)

Closely allied to *H. nævia* and *H. variegata*, but distinguished from the former by considerably longer toes, and from the latter by having the vertical shield separated from the rostral by the frontals.

The middle of the body is surrounded by forty-six longitudinal series of scales. Upper labials five or six. Ear-opening large, without denticulation. The fore leg, when stretched forward, extends to, or even slightly beyond, the end of the snout, the hind leg beyond the axil. Upper parts chestnut-brown, with irregular transverse black spots; sides and legs variegated with black and brown. Tail nearly entirely black. A black band from the eye, above the tympanum, extends to the side of the neck, where it is lost in the brown coloration of the sides. The meeting edges of the jaws black.

		inches.	lines.
Distance of the snout from the eye		0	3
" " " tympanum		0	9
" " " axil		1	3
" " " vent		3	8
Length of the fore leg		1	$3\frac{1}{3}$
" third and fourth fore toes		0	4
" hind leg		2	0
" third hind toe		0	6
" fourth hind toe		0	$8\frac{2}{3}$
Total length		9	6

One specimen, obtained by Dr. Meyer in Northern Celebes.

COPHOSCINCUS INFRALINEOLATUS.

Scales smooth; supranasal shields none; lower eyelid with a transparent disk; ear-opening hidden.

Snout depressed, not produced. Vertical bell-shaped, in contact with the praefrontal. Scales in twenty-two longitudinal series, of which the two middle on the back are very broad, twice as broad as the adjoining series. There are forty-two scales in a longitudinal series between the axil of the fore leg and the vent. Two large præ-anal scales. Black above, with three golden-yellow longitudinal bands, as broad as the black ground-colour between. The middle band commences on the end of the snout, and is continued on the tail; the lateral band commences on the superciliary edge, and runs along the side of the back to the root of the tail, where it is lost. The entire lower side with fine brown longitudinal lines running along the meeting edges of the rows of scales. Limbs finely reticulated, and the toes annulated, with black.

A single specimen was obtained by Dr. Meyer on Sangi Island; it has lost the greater portion of its tail.

	lines.
Distance between snout and vent	17
" " " " and fore leg.....	7
Length of fore leg	5
" " hind leg.....	7

COPHOSCINCUS SUBVITTATUS.

Scales smooth ; supranasal shields none ; lower eyelid with a transparent disk ; ear-opening hidden, but distinctly indicated by a sunken place.

Snout pointed, not produced or depressed. Vertical bell-shaped, in contact with the praefrontal. Scales in twenty-two longitudinal series, of which the two middle on the back are very broad, nearly twice as broad as the adjoining series ; and the latter, again, are twice as broad as the next outer ones. There are forty scales in a longitudinal series between the axil of the fore leg and the vent. Two large præanal scales. A broad bluish-white band runs along the middle of the back from the snout, and appears to be continued on the tail ; it is bordered on each side by a narrower black band, which becomes indistinct in the posterior half of the trunk. Along the side of the head and neck there is another similar white and black band, the white band proceeding from the supraciliary edge, but this band is lost behind the shoulder. Sides of the body and lower parts whitish, immaculate. Legs with very faint brownish dots.

A single specimen was obtained by Dr. Meyer at Manado : it had lost its tail ; and only a short portion is reproduced.

	lines.
Distance between snout and vent	18
" " " " fore leg.....	$6\frac{1}{2}$
Length of fore leg	$4\frac{1}{2}$
Length of hind leg	$6\frac{1}{2}$

DRACO ORNATUS, Gray.

In the 'Reptiles of British India,' I have identified Gray's *Draco ornatus* with *D. spilopterus* of Wiegmann. This is so far correct, that the adult male specimen (Cat. Lizards, p. 235, spec. c) is really of Wiegmann's species ; but the others (specimens a, b, d) belong to a really distinct species, for which the name proposed by Gray must be retained. This species is most closely allied to, and may be regarded as the Philippine representative of, *Draco volans* ; but the tympanum is covered with scales. *D. ornatus* is distinguished from *D. spilopterus* by the different coloration of the lower surface of the wings, which have some more or less confluent large black blotches, whilst in *D. spilopterus* the spots are small and scattered.

DRACO SPILONOTUS, Gthr.

By inadvertence this species was described in the text of Proc. Zool. Soc. 1872, p. 592, under the name of *Draco spilopterus*, whilst the correct name (*Draco spilonotus*) was used on pl. 35.

BRONCHOCELA MARMORATA, Gray.

From an examination of specimens collected by Dr. Meyer in Luzon I have no doubt that *Calotes (Bronchocele) philippinus* of Peters (Monatsber. Ak. Berl. 1867, p. 16) is identical with this species. Indeed one might even hesitate to separate this Philippine form from that of Celebes, *B. celebensis*. The principal distinctive character appears to be the pholidosis of the loreal region, which is almost granular in *B. marmorata*, and formed by distinct scutella in *B. celebensis*. In the former I have counted from 25 to 30 longitudinal series of scales on the side of the body, in the latter from 22 to 26.

LOPHURA AMBOINENSIS.

There are fifteen examples of all sizes in the British Museum; the localities where they have been obtained are Java, Amboyna, Celebes, and the Philippine Islands. I have arrived at the conclusion that no constant distinctive characters can be pointed out in specimens from different localities, and that there are not two individuals perfectly alike with regard to the development and distribution of the large scales and tubercles. As already observed by Wiegmann, the restral crest is somewhat more developed in Philippine specimens (*L. pustulata*) than in those from Java and Amboyna, and is visible even in very young specimens; but so slight a difference cannot be regarded as a specific distinction. Thus I must hesitate to adopt the *Lophura shawii* of Gray and the *Lophura celebensis* recently distinguished by Peters (Monatsber. Ak. Berl. 1872, p. 581); the latter is represented in the British Museum by an adult female received many years ago from the Leyden Museum with the name of *Basiliscus celebensis*.

PERPIA MUTILATA, Wiegm.

I have no doubt that Professor Peters is correct in supposing that *Peripia peronii* (D. & B.) is identical with *Peropus mutilatus* (Wiegm.).

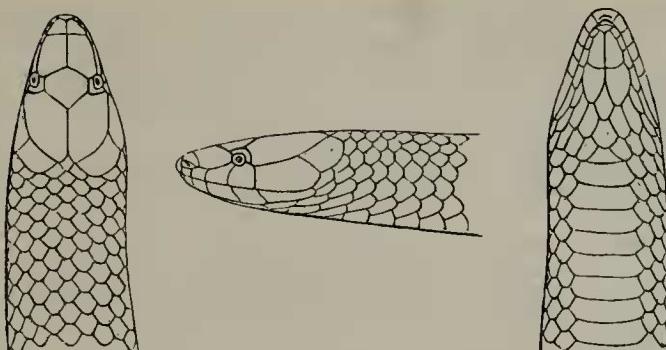
CALAMARIA MODESTA (D. & B.).

Dr. Meyer has obtained a singular variety of this species at Manado. The upper parts are of a light coffee-brown, dotted with darker. The abdomen is blackish, with a well-defined median white longitudinal band. This peculiar distribution of the colours of the abdomen I find more or less distinctly indicated in specimens from Java.

OXYCALAMUS OXYCEPHALUS. (Fig. p. 169.)

Rhabdosoma oxycephalum, Günth. Colubr. Sn. p. 242.

This species is most closely allied to *O. longiceps* (Cantor) from Pinang; but a direct comparison is rendered almost impossible by the bad state of preservation of the type of the latter species. *O. oxycephalus* lacks a praorbital; the number of ventral scutes is 137-152.



Oxyacalamus oxycephalus.

STENOGNATHUS MODESTUS, D. & B.

Rhabdosoma leporinum, Günth. Col. Snak. p. 12, is identical with this species, as already indicated by Peters, Berl. Monatsber. 1861, p. 684. Seven or eight upper labials. Duméril's statement that this snake is found in Java, is probably erroneous, as several other undoubtedly Philippine snakes have been stated by him to be from Java, where they do not occur.

OLIGODON NOTOSPINUS. (Plate XVIII. fig. A.)

Scales in fifteen rows. Loreal small but distinct; one præ- and one postocular; seven upper labials, the third and fourth entering the orbit; temporals 1+2. Ventral shields 143; anal entire; subcaudals 35 (the seven anterior not divided). Blackish ash, many scales with a very small white dot; along the median line of the back a series of eighteen large rhombic yellow black-edged spots, three of which belong to the tail. Head yellow, with two angular black cross bands. Lower parts uniform yellowish.

A single example of this beautiful snake was obtained by Dr. Meyer on Mindanao; it is $1\frac{1}{2}$ inches long, of which the tail takes $1\frac{1}{2}$ inch.

COMPSOSOMA MELANURUM (Schleg.).

Dr. Meyer has obtained several examples of a light-coloured variety with reddish tail in Luzon and Negros. This variety is mentioned by Duméril & Bibron (p. 301), and is again described by them as *Plagiodon erythrurus* (p. 175) from Java. Several other Philippine reptiles having been erroneously stated by Duméril & Bibron to have been obtained from Java, I doubt whether the typical example of their *Pl. erythrurus* was received from that island. In Jan's 'Iconographie' this snake is also figured twice, under the names given by Duméril and Bibron.

ZAOCYS LUZONENSIS.

Scales smooth, in fourteen rows, a single elongate loreal; occipitals truncated behind; seven upper labials, of which the third and fourth enter the orbit; the fifth triangular, with its upper point not reaching the postocular or the temporal; two præoculars, the lower small,

the upper reaching the upper surface of the head but not the vertical; two postoculars. Temporals 2+2, or 2+2+2. Ventrals 205; anal bifid, subcaudals 119. Upper parts brownish-olive, nearly all the scales with black margins; lower parts whitish. the posterior part of the belly and the subcaudals black.

One specimen was obtained by Dr. Meyer in Luzon; it is 8½ feet long, the tail measuring 26 inches.

TROPIDONOTUS MANADENSIS.

Allied to *T. stolatus*, but with the anterior frontals obtuse in front. Scales in nineteen rows, strongly keeled, except those of the outermost series. Head somewhat depressed, and rather dilated behind; eyes of moderate size, Loreal large, a little longer than deep. One præ-, three postoculars. Eight upper labials, the third, fourth, and fifth entering the orbit. Temporals 2+3. Ventrals 138; anal bifid; subcaudals 76. Dentition diacraterian. Upper parts brownish olive; a very indistinct broad darker band runs along the back. The upperside of the head and neck are uniform greenish olive, and behind bordered by a horseshoe-like black band, with the convexity directed backwards, and its branches running downwards on the sides of the neck; the parts immediately behind this band are yellowish. A rather irregular series of black spots along each side of the anterior portion of the abdomen, the remainder of which is white. The sutures between the upper labials black.

One specimen, 18 inches long (tail 5 inches) has been obtained by Dr. Meyer at Manado.

TROPIDONOTUS CALLISTUS. (Plate XVII. fig. C.)

Scales in 21 series, all strongly keeled, not emarginate behind. Head rather deep and short; eye large. Anterior frontals longer than posterior; occipitals as long as vertical and posterior frontals together, rounded behind; loreal deeper than long; the single anterior ocular reaching to the upper surface of the head, but not to the vertical; four postoculars. Nine upper labials, the fourth, fifth, and sixth entering the orbit; temporals 2+2. The posterior chin-shields longer than the anterior, and much divergent. Ventrals 156; anal divided; subcaudals 76. Maxillary teeth in a continuous series, the posterior scarcely longer than the preceding.

A greenish-olive band commences from a bright yellow spot on the neck, runs, four scales broad, along the median line of the back and the tail; it is bordered on each side by a dark brown band, seven scales broad in the middle of its length, encroaching with its zigzag outline upon the median dorsal band. The outermost series of scales and the corners of the abdominal shields are yellow, this colour forming another straight narrow band. A black band along each side of the belly. All these bands extend to the end of the tail. Upperside of the head black, with a yellow interocular cross band. Side of the snout and upper lip yellow.

A single specimen, 12 inches long (tail 2¾ inches), was obtained by Dr. Meyer in Northern Celebes.

HOLGERRHUM PHILIPPINUM, Gthr. (Plate XVIII. fig. B.)

This snake must be extremely scarce or very locally distributed, as none of the collections from the Philippines which have reached Europe during the last fifteen years contained another specimen. However, there appears to be one example in the Paris Museum, which has been figured by Jan under the name of *Cyclochorus maculatus* (Iconogr. livr. xxxvi. 1870, pl. 6. fig. 3). He states (Index des Planches) that this specimen is from Java, which is very doubtful. The groove of the posterior maxillary teeth is, in our specimen, not lateral, as figured by Jan, but anterior. I should now describe the nasal plate as divided rather than as single. Ventrals 144, subcaudals 40.

POLYPEDATES SIMILIS.

Closely allied to *P. signatus*, but entirely smooth.

Canthus rostralis distinct; loreal region concave, vertical; eye large; tympanum not quite the size of the eye. *Back and sides smooth, without granulation.* Fingers slender, quite free, with very small disks; toes slender, two thirds webbed, also with the disks very small. Two small metatarsal tubercles. Inner nostrils narrow, but wider than the Eustachian tubes; vomerine teeth in two very short oblique converging series between the inner nostrils. Upper parts black, a well-defined greenish-white band runs along the upper margin of the snout and eyelid, and along each side of the back. No brown spots on the back or sides; a whitish line along the coccyx; *a well-defined whitish band along the margin of the upper lip*, terminating below the tympanum. Legs transversely barred with brown and reddish white. Lower parts whitish.

One specimen from Laguna del Bay.

	millims.
Total length.....	39
Fore limb	27
Third finger	$8\frac{1}{2}$
Hind limb	65
Tarsus	11
Fourth toe	18

PLATYMANTEIS MEYERI.

Similar in habit to *Pl. plicifera*, but with more slender limbs. Snout scarcely longer than the eye. Vomerine teeth on two very short and very prominent oblique ridges, situated inwards and backwards of the inner nostrils, very far apart. Inner nostrils and Eustachian openings narrow. Tympanum not half the size of the eye. Back with rather short longitudinal folds. Disks of fingers and toes extremely small. *First finger a little longer than the second.* Toes with a rudiment of a web. Two small metatarsal tubercles. Brownish above, marbled with darker; a broad light reddish band from the snout along the median line of the back. Lower parts whitish, throat marbled with brown.

One specimen of this species, as well as of *P. plicifera*, was obtained by Dr. Meyer at Laguna del Bay.

	millims.
Total length	32
Fore limb	20
Hind limb	60
Distance between vent and heel	33
Fourth toe	17

4. A Monographic Revision of the Genera *Zephronia* and *Sphaerotherium*, with Descriptions of new Species. By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

[Received December 11, 1872.]

(Plate XIX.)

In the 'Annals and Magazine of Natural History' for last November, I added eighteen species to these two genera. Subsequently I have been favoured by Mr. Wilson Saunders with a sight of his collection, in which I have discovered two new *Sphaerotheria*; whilst a recent examination of the Banksian Collection in the British Museum has brought to light two examples of a fine new *Zephronia*.

As I have had some little difficulty in determining the species of these two genera, owing to their great similarity one to another, I have thought that it would facilitate the study of the group if I were to draw up a synonymic list of the described species, grouping them into sections founded upon well-marked structural characters.

In the case of some of Brandt's species (the original descriptions of which I have hitherto sought for in vain under the guidance of the references given in Gervais's 'Aptères'), I have given translations of the diagnoses as cited by M. Gervais. This I have, however, only done either when the species described is unknown to me, or when certain characters mentioned by the author indicate to which of my sections the species belongs. I have been obliged to rename one of the forms figured by Koch in his 'Die Myriapoden,' inasmuch as it does not agree with Brandt's description as cited by Gervais.

The number of species now described in the two genera will amount to fifty-one.

Order APTERA.

Suborder MYRIOPODA.

Division CHILOGNATHA.

Family GLOMERIDÆ, Gervais.

Genus SPHÆROOTHERIUM, Brandt.

Div. 1. *Last dorsal segment having a more or less distinct external rim.*

Sect. a. *Anterior portion of the last segment abruptly thickened.*

1. SPHÆROOTHERIUM ROTUNDATUM.

Sphaerotherium rotundatum, Brandt, Bull. Nat. Mus. pl. 6, p. 198. n. 1 (1833); Koch, Myriapoden, i. pl. 19. f. 38 (1863).